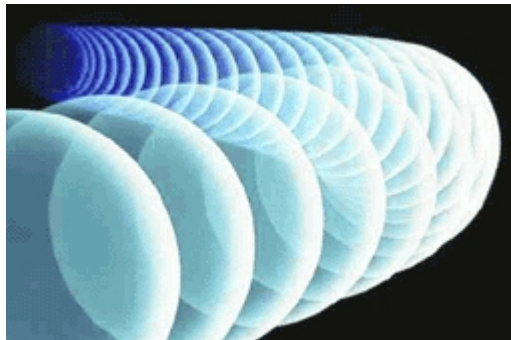


# **CHANGES of JOB LOCATIONS AMONG THE NASA WORKFORCE**

## **HISTORY AND STRATEGIES FOR INCREASING MOBILITY**



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## VOLUME II: APPENDIX 3 – SURVEY QUESTIONS

## SUMMARY

President Bush's Management Agenda calls for a more agile federal workforce. NASA's plan for developing greater agility in its workforce includes a provision for making it have more inter-installation job mobility. This report describes the results of an assessment of the job mobility that the NASA workforce has experienced to date.

**Mobility among the NASA workforce is low.** The responses of 4185 employees to an online questionnaire and those in nine focus groups show that **only seven percent have experienced a temporary work assignment** at an installation requiring them to establish a temporary new residence (inter-installation mobility). Another 24 percent experienced an intra-installation temporary assignment. Moreover, **90 percent work at the installation where they began** their NASA careers. However, 57 percent worked at another organization prior to NASA, although that was generally more than ten years ago.

The data show that higher levels of inter-installation job mobility involving temporary assignments are associated with greater seniority of role, grade and years at NASA. Also, most temporary **mobility occurs after 12 years of service at NASA.** On the other hand, insignificant differences in mobility were generally found among groups based on race, gender and occupational type.

**Lack of awareness** of the possibility of taking a temporary assignment was listed by Survey respondents more than any other as their primary reason for never having taken a temporary assignment. Other reasons given by many were family and relocation concerns, both of which also were mentioned as major difficulties associated with experiencing a temporary assignment at another installation. The most mentioned **motivations** for having

taken a temporary assignment were to acquire **skills/knowledge, a broader perspective and contacts.** Those items also were listed as the primary benefits of having taken an assignment.

The most mentioned enticements that would **motivate one to accept** an inter-installation temporary assignment were **desirable work or location, advancement, and monetary compensation.**

**Significant difficulties** associated with temporary assignments were believed to be the **increased workload and decreased skills** the home organization would experience because of the temporary loss of an employee. Also, many of those who had taken an assignment believed their absence from their home organization resulted in a **decreased probability for promotion.** In addition, many believed their temporary assignments were **stressful.** On the other hand, the most often mentioned difficulty was "none."

### Approaches for Increasing Mobility

All of the following are compatible and the workforce suggested many of them:

- Establish a steering committee to oversee mobility
- Increase the centralization of temporary assignments including the use of an Agency-wide database
- Promote and coordinate mobility through a new or existing Agency-wide office (e.g., NSSC)
- Provide more management support including the setting of goals and measures of mobility for managers
- Emphasize the importance of temporary assignments and broad experience for promotions
- Educate the whole workforce about

- temporary assignments
- Use more career development planning to promote temporary assignments
  - Develop and use more mentors
  - Use contracts to specify the details of temporary assignments (e.g., goals, work products, duration)
  - Increase the use of available rewards to those on assignment including temporary promotions and bonuses

- Provide for a spouse's travel costs to visit an employee in a temporary job in lieu of an employee's travel costs to visit a spouse at home
- Target junior employees and new hires for inter-installation temporary assignments.

## BACKGROUND

In February 2001, the GAO added human capital management to the government wide “high-risk list” of federal activities (GAO, 2001). In testimony to the GAO on that risk in NASA and other agencies, the U.S. Comptroller General, David Walker, said that NASA needs to “shift their overall orientation from stovepipes to matrices” (GAO, 2002). One approach to developing such matrices would be to have high levels of inter-installation job mobility within NASA. Such mobility may also increase the agility of the workforce.

Prior to investing in greater job mobility, the study described in this report was commissioned to determine the current level of job mobility in NASA. The study also is an action identified in NASA’s Strategic Human Capital Plan, that directly supports the Management Agenda of the President, and is included in NASA’s agreement with OMB.

Additional purposes of the study include the identification of current and potential strategies to promote increased job mobility as well the identification of its roadblocks. Also, provisions for increasing mobility were to be identified.

### ***Brief Overview of Study***

The study relied on data from an online survey of NASA employees as well as focus groups. The items from the Survey’s questionnaire are shown in Appendix 3 with the aggregated responses of respondents. Appendix 3 is separately bound.

In July of 2002, every other employee on a list of all NASA employees was sent an email from NASA’s Director of Human Resources, asking them to take an online survey regarding job mobility. Of the approximately

9100 individuals asked to participate, 4,185 (46 percent) responded and completed most of the Survey questions they were asked. Approximately 3,950 persevered to the end of the Survey.

### **Representativeness of the Survey Sample**

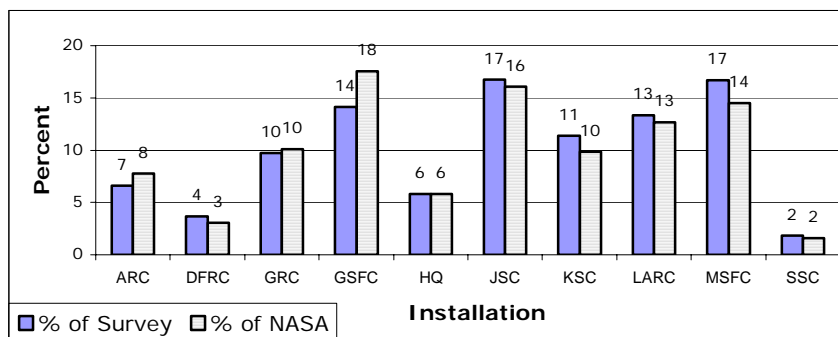
The Survey respondents appear to be representative of the entire population of NASA employees. The primary reason is that the number of employees who responded to the Survey is many times more than the number necessary to have a representative sample. This is discussed in detail in Appendix 2, along with other details on the representativeness of the data.

Also, representativeness can be argued on the basis of the fact that 46 percent of a randomly selected sample of invitees responded to the Questionnaire. In addition, there are five other indicators that show the respondents are representative of the entire NASA population. Each compares the Survey respondents and the entire NASA population in terms of a demographic (e.g., gender). All five show the Survey respondents to be very similar to the entire NASA population. The other demographic comparisons are based on installation, GS grade, ethnic origin, and occupation.

For example, the comparisons for installation are shown in Figure 1. It indicates the percentage of respondents to the Survey that were at each installation as well as the percentage of the total NASA population at each installation. The high degree of similarity between the two sets of percentages indicates that each installation contributed a

number of respondents representative of its contribution to the total NASA population.

**Figure 1 - Percent of each installations' employees that responded to the Questionnaire**



The comparisons and figures for the other four demographics are shown in Appendix 2.

Except for Dryden, each installation provided a group of managers and a group of non-managers. At Dryden, the small numbers of both types of personnel were combined into a single focus group.

All focus group members were volunteers responding to a request of the local Training Officer. The Training Officers solicited members until they obtained commitments from approximately 15 managers and 15 non-managers. All groups contained both those who had experienced a temporary assignment of a month or longer away from their home installations and those who had not.

## Focus Groups

Focus groups were used to clarify some of the data collected by the online questionnaire, as well as to investigate employees' solutions to some of the problems associated with mobility.

Focus groups were conducted at those installations that indicated they could support a focus group. Nine were conducted at five installations: HQ, Langley, Marshall, Ames, and Dryden.

## MOBILITY in NASA

The first part of this chapter describes the mobility experienced by the entire sample of respondents. The second part focuses on subgroups based on demographics.

### ***Types and Amounts of Mobility for the Entire Sample***

#### **Temporary Assignments**

The questionnaire asked respondents about mobility in both “permanent” job assignments and temporary ones. Data show that only seven percent (302) of the 4,104 respondents had experienced a temporary work assignment of a month or longer requiring them to establish a new temporary residence. Such assignments were referred to as “developmental work assignments” (DWAs), whose definition included most types of such assignments (see Appendix A for definition).

Seven percent seems low; however several other questions indicate that it is an accurate number. For example, a similarly low number of respondents (298) answered the question that asked what motivated them to accept a DWA at another installation.

Overall, 31 percent of the respondents indicated they had a DWA somewhere. Twenty four percent (998) of the respondents indicated they had experienced a DWA that did not require a move to another installation (intra-installation mobility). Three percent had a DWA at a non-NASA organization such as the Department of Defense, the GAO, or a corporation.

Those respondents indicating that they had an inter-installation DWA have had much more mobility as a group than those having a DWA only at their home installation (intra-installation mobility). Ninety percent of the inter-

installation group had a second DWA whereas only 35 percent of the intra-installation only group had a second DWA.

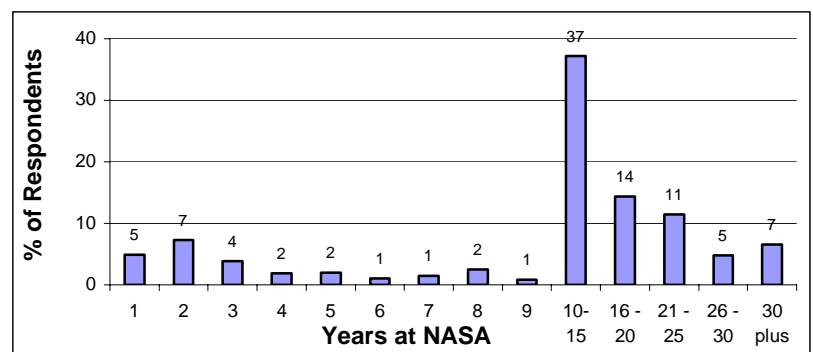
#### **“Permanent” Positions**

Ninety percent of said they have worked at only one installation. Such longevity at one installation surely contributes to the expectation that one can work their whole career at one installation. Many in the focus groups voiced that expectation. Moreover, many in NASA held that expectation as long as 15 years ago as is indicated by the 1985 mobility study by the National Academy of Public Administration (*Employee Mobility and Executive Compensation*).

Fifty-seven percent of respondents (2,381) indicated that they had a permanent job prior to starting at NASA. Sixty-seven percent (1,362) had more than one such job.

On the other hand, of those who indicated that they had a job outside of NASA, 74 percent of them left that job at least ten years ago. This can be calculated from Figure 2 that shows the number of years at NASA for only those indicating they had a job prior to being at NASA. The last five columns’ percentages (those who left their jobs outside of NASA at least 10 years ago) sum to 74 percent.

**Figure 2 – Respondents’ years at NASA**





## Mobility Across Groups

This section describes mobility per each of the groups defined by the demographics collected on the Questionnaire (e.g., location, grade, gender). Also, the mobility described is that based on only DWAs.

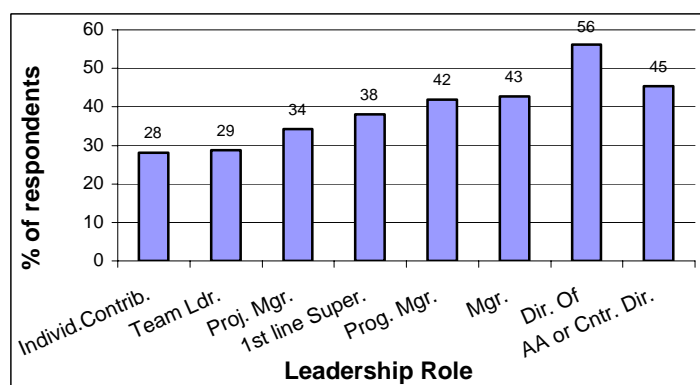
As introduced earlier, one way to categorize mobility is in terms of inter-installation and intra-installation DWAs. The following presents the mobility results by both types of DWA per demographic group and does so in succession rather than in separate sections. For example, mobility per leadership role is presented first for intra-installation DWAs and then for inter-installation DWAs. Most importantly, by and large the results and relationships discovered for inter-installation DWAs are the same for intra-installation DWAs.

## Seniority

**Greater mobility is significantly related to seniority**, the more senior respondents having had more DWAs. This relationship exists between mobility and several measures of seniority including role, grade and years at NASA.

The relationship is seen in Figure 3 that displays types of roles. In general, the roles are arranged from the most junior on the left to the most senior on the right. For each role, the percentage having had a DWA anywhere is displayed. As shown, the percentages generally rise from left to right, with only the column for AA or Center Directors showing a slight decline from the previous column. The numbers of respondents having had a DWA are shown per role in Table 1. Of course the categories of leader with large numbers are partly a function of those categories having large numbers of respondents to the questionnaire and large numbers in the total NASA population.

**Figure 3 – By role: Percent of respondents having taken a DWA at any installation**



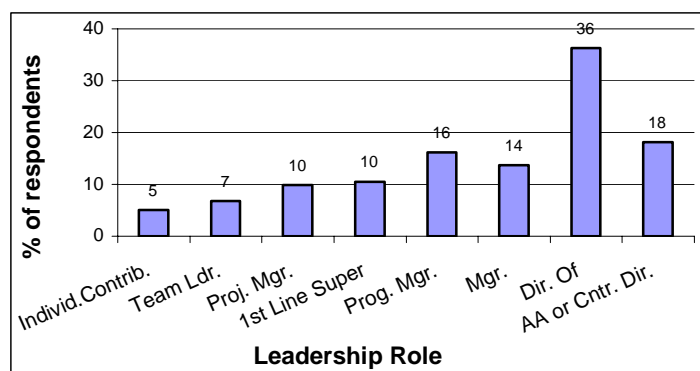
**Table 1 – By Role: Numbers of respondents having taken a DWA at any installation**

Individ. Contrib.	Team Ldr.	Proj. Mgr.	1st Line Super.	Mgr.	Program Mgr.	Dir. of	AA or Cntr. Dir.
617	221	80	69	140	44	45	5

The greater mobility of the more senior roles is not necessarily due to a lengthier career in which to experience DWAs. Length of career at NASA is minimally related to leadership role. The correlation between years at NASA and role is only .10 based on the Questionnaire data.

Taking a second DWA also is associated with seniority of role as is shown in Figure 4 that depicts the percentage of respondents who had a second DWA.

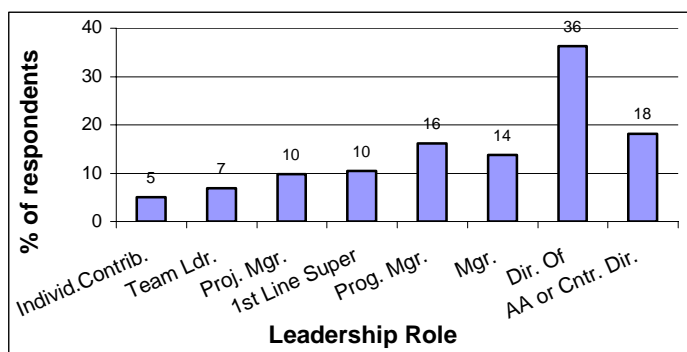
**Figure4 - Second DWA by role**



The same relationship between seniority and mobility is even more prominent when the DWAs examined are only the inter-installation type. This is shown in Figure 5, similar to Figure 4 that depicts the percentages of respondents that had an inter-installation type of DWA.

The absolute numbers for these roles are shown in Table 2. Again, the larger numbers for categories like individual contributor and team leader are due to the large number of persons in that category who responded to the Questionnaire.

**Figure 5 – By role: Percent of respondents having taken an inter-installation DWA**



**Table 2 - By role: Numbers of respondents having taken an inter-installation DWA**

Individ. Contrib.	Team Leader	Proj. Mgr.	1st Line Super.	Mgr.	Program Mgr.	Director of	AA or Cntr. Dir.
110	54	23	18	46	17	29	2

Greater mobility is associated with higher grades as is shown in Figure 6 and Table 3 that depict the percentages and numbers of respondents per grade that had a DWA of any type. The relationship between seniority and DWAs is more evident in Figure 6 if the GS 10 level, which had only 35 respondents, is not considered.

**Figure 6 – By grade: Percent of respondents having taken a DWA at any installation**

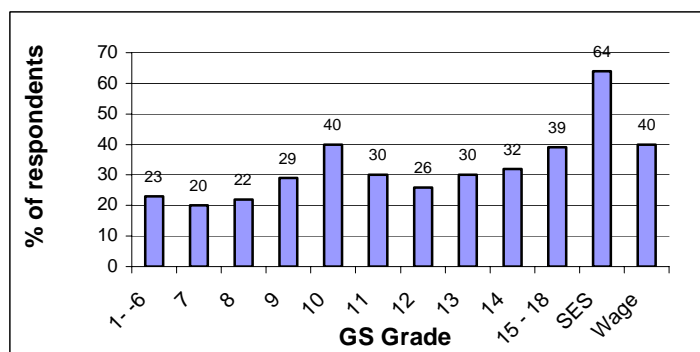


Table 3 shows the absolute numbers.

**Table 3 - By grade: Numbers of respondents having taken a DWA at any installation**

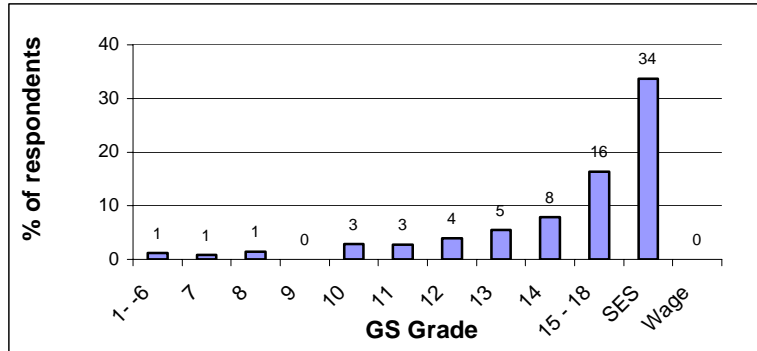
1 - 6	7	8	9	10	11	12	13	14	15 - 18	SES	Wage
19	23	16	28	14	87	105	366	282	238	53	2

As with roles, the relationship between mobility and grade is even more prominent if one looks only at inter-installation DWAs. This is shown in Figure 7 that is similar to Figure 6.

It depicts an even steeper slope from the lower grades up through the higher ones. In fact, there is practically no mobility until the GS 12 grade. Part of the reason for saying this is that the percentages in the figure depict the amount of mobility that each Grade has experienced over the entire duration of their career. So the mobility per year is probably less than one percent per Grade level.

The zero percentage for GS 9 grade is no error. Of the 1240 respondents who both had a DWA and listed their grade on the Questionnaire, 28 were of them were GS 9 and all indicated that all of their DWAs were taken at their home installations.

**Figure 7 – By grade: Percent having taken an inter-installation DWA**



The absolute numbers of respondents having an inter-installation DWA are shown in Table 4 by grade. Of note is the fact that less than 100 people responded from each of the GS 1 through 6 grades as well as each of the GS 8 through 10 grades.

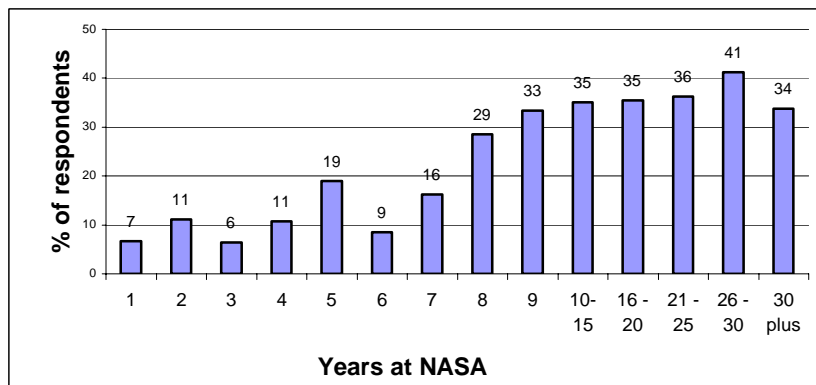
**Table 4 - By grade: Number of respondents having taken an inter-installation DWA**

1 - 6	7	8	9	10	11	12	13	14	15 - 18	SES	Wage
1	1	1	0	1	8	16	6 7	6	99	33	0

A similar pattern is seen when mobility is displayed by years at NASA, as is shown in Figure 8. The small percentages for the first seven years are attributable to the late stage in one's career that most accepted a DWA.

**Figure 8 - Years at NASA: Percent of respondents having taken a DWA at any installation**

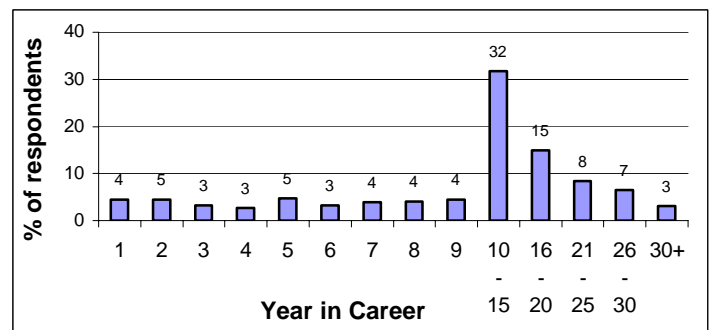
The late period in one's career that is typical



of when most accept a DWA is shown in Figure 9. It indicates the percentage of

respondents who accepted their first DWA per year of their career. The last five columns sum to 65 percent, indicating that many respondents began their first DWA after their ninth year. Also, 33 percent began after their 15th year. This type of data is not available for those who experienced inter-installation mobility.

**Figure 9 - Year in career that first DWA began**

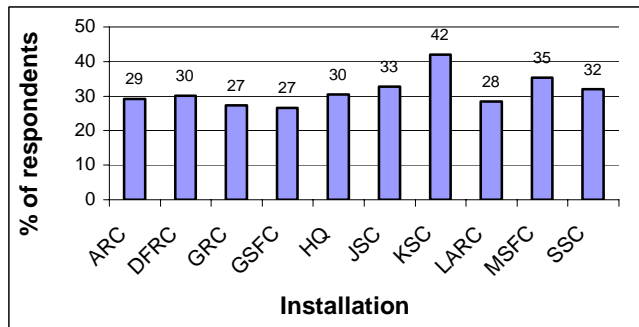


## Other Demographics

Generally, insignificant differences were found among groups based on other demographics such as location and gender. This can be seen for installations, gender and generally for race, in Figures 10 through 13.

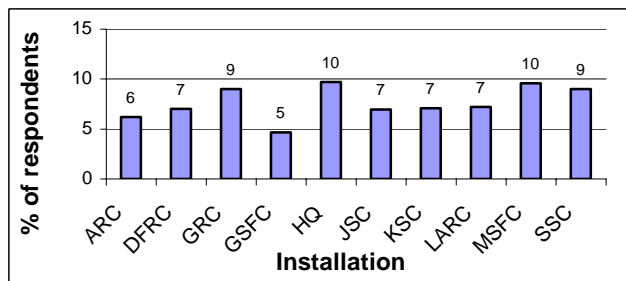
Figure 10 shows the percentage of respondents per installation having had a DWA at any location. Only the percentage for KSC is significantly higher than the rest.

**Figure 10 - Installation: Percent having taken a DWA at any installation**



Similarly insignificant differences are seen when the data for DWAs by installation include only those of the inter-installation type as is shown in Figure 11. The figure includes only installations that supplied more than twenty responses to the questions that asked about inter-installation DWAs and current installation (location).

**Figure 11 - Installation: Percent of respondents having taken an inter-installation DWA**



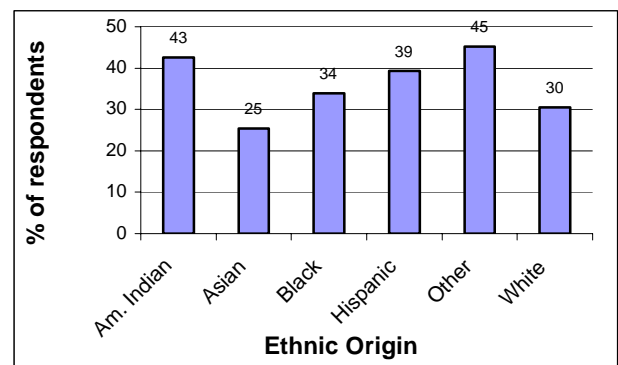
The two slightly lower percentages compared to all other differences in Figure 11, are those for Ames and Goddard. However, those are easily explained by their location. Other than one's home installation, Headquarters is overwhelmingly the most often chosen location for a DWA, especially for those at Goddard. Twenty-one percent of the DWAs performed by those at Goddard were done at HQ. The average percentage of DWAs performed at HQ is 11 percent for all other installations (not counting those from HQ). So at Goddard, 21 percent of the DWAs that were away from the home installation did not

require new temporary living quarters, thus reducing the percentage in Figure 11 for Goddard to five percent.

As for Ames, the focus groups indicated that geography plays a significant role in the decision about where to do a DWA. They indicated that their great distance from all installations except for Dryden definitely played a role in their decision of where to do a DWA. Thus the percentage of Ames personnel doing an inter-installation DWA is lower than most others, as slightly more of them opt for an intra-installation DWA.

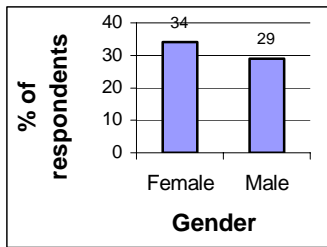
There are a few differences among the ethnic origin groups in terms of the amount of mobility, as is shown in the Figure 12. Generally it shows more mobility for American Indians and Hispanics and less for Asians.

**Figure 12 - Race: Percent of respondents having taken an inter-installation DWA**



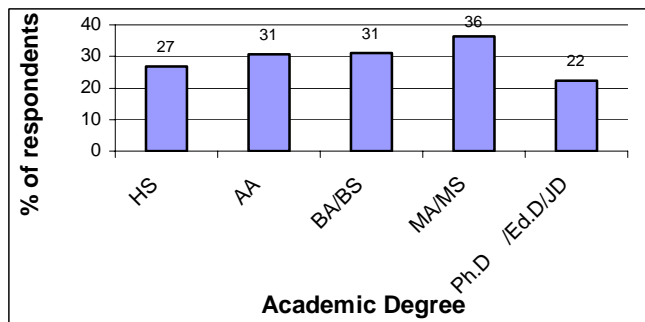
Thirty-six percent of the respondents (1,413) indicated they were female. Of those, 34 percent had a DWA as is shown in Figure 13. On the other hand, only 29 percent of the males had a DWA.

**Figure 13 - Gender: Percent of respondents having taken a DWA at any installation**



In terms of academic degrees, the percent of those having taken a DWA are shown in Figure 14. The differences shown are predominately between the group encompassing Ph.D/Ed.D/JD and the other categories, the former having less mobility. However, again the differences are not large.

**Figure 14 -Academic Degree: percent having taken a DWA at any installation**



Similarly, occupational groupings displayed in Figure 15 show very small differences among the groups, except for the Wage and Clerical categories. The Clerical category shows considerably lower mobility and the Wage category considerably higher mobility. However, only 25 respondents indicated they were in the Wage category; so little weight should be given to the data for that category.

**Figure 15 - Occupation: percent of respondents having taken a DWA**



# MOTIVATIONS, DIFFICULTIES and BENEFITS ASSOCIATED with MOBILITY

Data about the motivations for accepting a DWA as well as the difficulties and benefits of performing a DWA were obtained from the textual responses of respondents to several open-ended questions. Only those 1300 that said they had experienced a DWA were asked to answer four questions about the personal and organizational difficulties and benefits they believed had been associated with their DWA. Only those 302 who had experienced an inter-installation DWA were asked for their motivations in doing so. Those approximately 3800 who had not experienced an inter-installation DWA were asked why they had not taken one and what would motivate them to do so.

A group of ten NASA employees and consultants read and grouped the open-ended responses per question, in terms of their thematic similarity. The items in each thematic group were reviewed a second time to validate their original placement in a group. Only those themes that were espoused by dozens of respondents are described in the following major section entitled “Results for All Roles.”

The analyses of the open-ended questions were performed in their entirety a second time during which the responses were also grouped by leader type. These analyses and results are described in the second major section entitled “Results by Leader Role.”

## ***Results for All Roles***

### **Motivations**

Three questions addressed respondents’ motivations for having taken or not having taken a DWA, as well as what might entice them to take a DWA in the future. The results

of each of these questions are described in the following three sections.

### ***Motivations For Having Taken a DWA***

Only those who had experienced an inter-installation DWA (302) were asked for their motivations for having done so. Six reasons were given by 15 to 20 percent of those who answered. One of these reasons was that their job tasks, program or management required them to take the DWA. The other reasons given were that they wanted to acquire one or more of the following from the DWA:

- Specific skills and knowledge
- A broader perspective about NASA
- Desirable work
- Change and more variety
- Career development.
- Required by job, task or management.

### ***Motivations For Not Having Taken a DWA***

Those who had not taken a DWA (2,804) were asked why they had not. “Lack of awareness of the possibility of a DWA” was the reason given by 45 percent (645) of them. This reason was offered more than twice as much as the next most common reason of “family concerns” (17 percent). Responses of the unaware type included “did not know about it”, and the single most given response of “never offered”, as in no one ever offered them the opportunity to do a DWA.

The next most mentioned reasons were given by seven to 17 percent of those answering:

- Concerns about their family
- Job satisfaction with what they were currently doing
- Not interested.

One response that embodies all of these concerns and indicates that at least some do not understand why the Agency would want to promote a DWA was:

**“Never been offered a DWA. I don’t have good information on DWA benefits, housing plans, ...I also have a family that could be disrupted...and don’t understand the Agency considerations of this.”**

Some participants in several of the focus groups mentioned that lack of management support was a reason for not taking a DWA. A check for that type of response in the open-ended responses revealed it was mentioned by relatively very few individuals (38 or roughly 3 percent). So it may occur, but apparently not in many work units.

### ***Enticements That Would Lead to Taking a DWA***

All those who had not taken a DWA were asked what would motivate them to do so. No single motivation was offered by more than 13 percent of those responding. Five types of motivation were indicated by between six and 13 percent:

- Desirable work
- Promotion
- Career development
- Desirable location
- Monetary compensation

The desirable location responses included various definitions of “desirable”, such as locations with mild climate and geographic proximity. The monetary compensation described was almost always higher salary, not DWA related expenses.

## **Difficulties**

Those who had taken a DWA were asked about the difficulties they believed they had experienced in performing the assignment and returning to their home organization. They were asked for both the difficulties that they believed impacted them personally and those that affected the organization.

The responses leave no doubt that the respondents believed there are difficulties involved in performing a DWA, as one would expect. While the difficulties are probably formidable, those who had taken a DWA requiring them to establish new temporary living quarters also clearly indicated that they would accept another inter-installation DWA. Seventy-eight percent of those who had a DWA at another installation said “yes”, when asked if they would accept another inter-installation DWA.

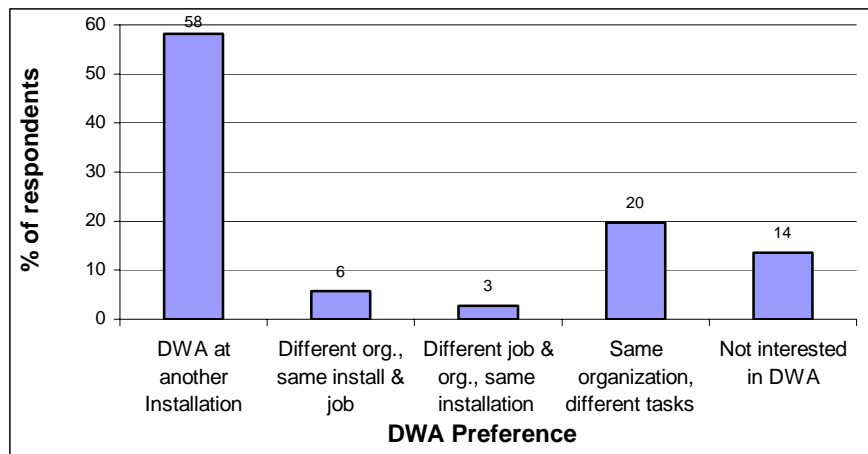
Similarly, the third most common response to the question about what the organizational difficulties were, was “none.” This was offered by approximately 21 percent of the respondents to that question.

None is also the most common response to the question about what were the personal difficulties. Approximately 30 percent gave that response. So while it is clear many of the respondents believed there were some difficulties associated with taking a DWA, many thought a DWA did not bring with it any significant difficulties. However, the responses reported are for those who had either an inter or intra-installation DWA.

Similarly, when asked later in the Questionnaire to choose the type of DWA they would prefer, 58 percent who had a DWA chose a DWA at another installation. Moreover, they were given four other choices as shown in Figure 16. Only 14 percent said, “Not interested in a DWA.”



**Figure 16 - Preferences for types of DWA by those having had a DWA**



No other responses were offered by more than four percent of those answering the question.

### ***Difficulties for the Individual***

Respondents indicated that they believed their personal difficulties were primarily an increased workload and the stress of such a workload. Approximately 18 and 13 percent gave those responses, which are also obviously highly related. The increased workload was for many, the

result of not relinquishing all of their previous responsibilities at their home organization.

### ***Difficulties for the Organization***

Respondents indicated that they believed the organization experienced:

- An increased workload at the home organization (one less worker, same amount of work)
- A loss of important skills for the home organization.

Those two were the most common responses. Others offered by about six percent of those answering were:

- Return on investment (ROI) at the destination organization was low
- Increased workload and logistics/office difficulties for the destination or new organization

Often the ROI was considered to have been low because the person on a DWA was:

- Given insignificant work
- Was not given any work to perform initially
- Was initially inefficient because of a steep learning curve
- Had responsibilities at their home organization causing less than 100% effort at the destination organization

Seven other responses were given by five to 10 percent of those answering:

- Reduced career advancement potential
- Steep learning curve on new job
- Performing family responsibilities
- Relocation problems such as housing
- Insufficient training/mentoring at new site
- Insufficient support from home supervisor/management
- Re-entry to home organization.

The first of these is interesting because it is counter-intuitive. The reason given most for the reduced career advancement potential was that being removed from the home organization removed them from consideration for the next promotion. They used the metaphor “out of sight, out of mind.” The 1985 study by the National Academy of Public Administration found the same effect for temporary assignments.

Also, respondents' ability to personally promote their careers at their home organization was considered severely impacted. In addition, many felt their DWA



was perceived by their home organization as failing to add any value to their skills. However, only 83 people, or 7.5 percent of those answering the question gave the reduced career advancement response. So it does not appear to be a perception of many.

The following quote from one respondent embodies many of the previous ideas:

**“Did not know how to effectively utilize me or anything I learned from the experience. They felt I had deserted them for a year and were not interested in how I could help them.”**

All of these difficulties are addressed in a later section of this report that focuses on increasing mobility within NASA.

## **Benefits**

Those who had taken a DWA were asked about the benefits that resulted from it. They were asked for both those that impacted them personally and those that affected the organization. A leader of the team categorizing the respondents' comments about the benefits dubbed the following one the “poster child of benefits:”

**“Obtaining a more competent employee – one who understands the big picture and has the organizational contacts to function across the Center and NASA. Improved employee morale, engagement and effectiveness. ... has been a great source of new ideas and insights – everyone learns, not just the person on DWA.”**

That quote embodies many categories of benefits gleaned from the entire set of responses about benefits.

### ***Benefits for the Organization***

A broader perspective and increased specific skills were the most common responses. Both of these were mentioned by approximately 24 percent of those answering the question.

Three other answers were given by many, but only about ten, five and five percent respectively:

- A network of interpersonal contacts
- Accomplishment of difficult tasks.
- Efficient use of personnel.

The performance of difficult tasks can often be accomplished through a DWA by bringing in personnel with the right skills; perhaps those that were missing from the receiving organization. The “efficient use of personnel” concept means that a DWA can be used to add to the workforce in areas experiencing increased workload. The additional personnel can come from organizations experiencing a temporary decrease in workload.

### ***Benefits for the Individual***

Benefits of a personal nature were similar to those listed as the benefits for the organization. The one listed by almost 55 percent was increased specific skills. Approximately ten and five percent offered the following:

- Broader perspective
- A network of interpersonal contacts.

The only other benefit mentioned by more than five percent of those answering was the career advancement and promotion effect of the DWA. This was offered by 16 percent of those answering. This is in contrast to the five percent who indicated that a DWA had a deleterious effect on their careers. Both are perceptions that may or may not have a basis

in fact. It is possible that the experience could have different effects for different situations/people.

## ***Results by Leader Role***

All respondents were asked to indicate their “role” in terms of its leadership and managerial demands. Eight types of role were available to choose from, as has been displayed in earlier charts. The open-ended responses of those in all eight leader groups were compared. Very few differences among the responses of the groups were found. The details are described in the same type of sections on motivations, difficulties and benefits that were used to describe the results for “All Roles.”

The eight types of leader roles were grouped into four in order to make groups with substantial size:

- Executive leaders and senior leaders
- Managers, first line supervisors and team leaders
- Program managers and project managers
- Individual contributors.

## **Motivations**

### ***Motivations for Having Taken a DWA***

In terms of motivations, there are no significant differences among the two groups that produced more than 15 responses to this question: Individual contributors; and managers, 1<sup>st</sup> line supervisors and team leaders. As noted in the Results for All Roles, there were six types of answer, none of which was an overwhelming favorite.

This question was asked of only the 302 respondents who had taken an inter-installation DWA. Of those, the executive and senior leaders group produced only 15 responses and the group of program and project managers 15 also. No single

motivation was espoused by more than four members of either of those groups. The executive and senior leaders did not mention “broader perspective” or “change and more variety”, as did the other groups.

### ***Motivations for Not Having Taken a DWA***

All of the leader groups gave essentially the same reasons for having taken a DWA. There are only two small differences among the groups’ relative emphases on the reasons for not having taken a DWA. Those differences between groups are for two motivations that were mentioned by only four percent of the total of those answering the question. In particular, as shown in Table 5, the following percentages of those answering this motivation question, gave “current job responsibilities” as their reason. The major difference shown in the table is between the program and project managers versus the individual contributors.

**Table 5 – Differences among groups’ emphasis on “current job responsibilities”**

Leader group	%	#
Executive & senior leaders	4	2
Mgrs., 1 <sup>st</sup> line sup., team leaders	7	28
Program and project managers	10	13
Individual contributors	2	13

Another motivation that was mentioned in different amounts was “no interesting opportunities.” The executive and senior group had ten percent (5 people) give this reason, whereas the other groups had three percent or fewer offers it.

It is interesting that the executive and senior group, as well as all the others, gave “lack of awareness” as the predominant reason for not having taken a DWA (35% of executive and senior leaders). This reason includes the idea that a DWA was never offered to them and

they were not aware of any. Together, “no interesting opportunities” and “lack of awareness” were the responses of almost 50 percent of the executive and senior group. The lack of awareness reason was given by 49 percent of the individual contributors, whereas only a handful said “no interesting opportunities” was their reason.

### ***Enticements That Would Lead to Taking a DWA***

The few differences among groups’ enticements to take a DWA are due to those groups that had only fifteen responses to the question about what would motivate them to take an inter-installation DWA (both the executive and senior group as well as the program and project manager group). Nevertheless, one of the differences was that none of the executive and senior group gave two otherwise popular responses as their reasons:

- A broader perspective about NASA
- Change and more variety.

All the other groups gave those responses between 14 and 27 percent of the time.

The other difference for this type of motivation concerned “desirable work.” Of the total of 15 program and project manager responses, only one (7 percent) was “desirable work.” On the other hand, that response was given by 17 to 20 percent of the other groups.

## **Difficulties**

### ***Difficulties for the Organization***

There are no significant differences among groups’ beliefs about the difficulties their organizations experienced as a result of a DWA. The only two differences of any magnitude among groups are the relative numbers of people giving “a loss of important skills for the home organization” as the difficulty. Only five percent of the

program and project managers group as well as five percent of the individual contributors gave that response. On the other hand, 15 and 18 percent of the other two groups gave that response. Thus it appears that the loss of people and or organization management skills and perhaps leadership are more often perceived to be detrimental to the organization, especially in comparison to more technical and program/project management skills.

### ***Difficulties for the Individual***

Difficulties for the individual showed very small differences among groups, especially when compared to the percentages of each group that said “none” were the difficulties they experienced: 23; 36; 23; and 30 percent. However, the third largest group of difficulties, “stress”, was offered by none of the executive or senior leaders. Generally, 13 percent of the other groups gave that response.

The only other difference of any size among groups was their relative emphasis on the problems a DWA causes for their families. Only eight percent of the individual contributors gave that response, whereas 11 to 19 percent of the other groups listed it as a difficulty.

## **Benefits**

### ***Benefits for the Organization***

The only difference among groups’ indications of the benefits to their organizations concerned the acquisition of interpersonal contacts. Ten and nine percent of the two more senior groups of leaders offered the acquisition of interpersonal contacts as a benefit of their DWA. On the other hand, only five percent of the program and project managers as well as five percent of the individual contributors listed that benefit.

### ***Benefits for the Individual***

Benefits believed to accrue to the individual from taking a DWA showed more variability from group to group than the responses to any other of the open-ended questions. While all groups' most common response to personal benefit was "an increase in specific skills", differences exist among the percentages giving the second, third and fourth most mentioned personal benefits.

For the benefit of "career advancement and promotion", there is a lessened belief in it resulting from a DWA, as you ascend the leadership scale. This is shown in Table 6 that depicts the percentage and number of those saying that one of the personal benefits of their DWA was career advancement or an increased promotion potential.

**Table 6 – Differences among groups' emphasis on "career advancement and promotion"**

<b>Leader group</b>	<b>%</b>	<b>#</b>
Executive & senior leaders	3	2
Mgrs., 1 <sup>st</sup> line sup., team leaders	7	30
Program and project managers	10	14
Individual contributors	21	139

The benefit of "broader perspective" was the third most common benefit listed. However, only eight percent of the individual contributors gave that response. On the other hand, 32 to 40 percent of the other groups gave it.

For a related benefit (increase in specific skills), 59 percent of the individual contributors listed it as the benefit of their DWA. The percentages for the other groups are generally about 42 percent. So all groups place about the same emphasis on learning, but the more senior groups emphasize a broader type of knowledge to be learned, in comparison to the individual contributors emphasis on specific skills.

Similarly, as was the case for the benefits accruing to the organization, there were differences in relative emphasis on the acquisition of interpersonal contacts. Approximately nine percent of all three of the more senior groups of leaders offered the acquisition of interpersonal contacts as a benefit of their DWA. On the other hand, only three percent of the individual contributors listed that benefit.

# APPROACHES FOR INCREASING MOBILITY

**“The significant problems we face cannot be solved at the same level of thinking we were at when we created them.” Albert Einstein”**

The Questionnaire data revealed several obstacles to increasing the mobility of the workforce. Hence much of the focus groups’ efforts were used to identify the means to increase mobility, especially that between permanent and temporary assignments. This section highlights those means and discussions of them, as well as conclusions that were drawn from the data obtained from the Questionnaire and focus groups. Also described in the last part of this chapter are the current practices and programs that promote mobility in NASA.

## **Centralization of DWAs**

Much of the data from both the focus groups and the questionnaire highlight problems that lend themselves to solutions involving greater centralization of DWAs. The problems include those of greater workloads at the home organization and for those on a DWA. Also, the problem of lost skills that the home organizations often experience is relevant to this type of solution. Just as important is the primary reason given for not taking a DWA – unawareness of the opportunities. In addition, finding new residential quarters is a problem more centralization could address.

## **Methods**

The following contains several ideas that are grouped into three general methods that would increase the centralization of DWAs. All are compatible.

### ***Centralized Database***

An online database of DWA opportunities could be established that would help address the unawareness problem. The database could display online, to the entire workforce, all of the DWA opportunities across the Agency. It could include information that addresses the two primary motivations respondents listed for having taken a DWA: skills and significant tasks to accomplish.

Anyone with an available DWA opportunity should be able to input such information into the database. Opportunities of all durations could help in the accomplishment of tasks at organizations that are temporarily overloaded.

Such a database does not appear to be available within the Agency. However, the structure for one can be seen at (<http://www.leadership.nasa.gov/nasa/lmd/Development/WorkAssignments/FindingWorkAssignments.asp>).

Another useful component of such a database would be the “supply-side” component – those desiring DWAs. As noted in the next section, a component that would specify the desires and resumes of individuals would help with the replacement problem that an employee leaving on a DWA causes the home organization. The National Academy of Public Administration (NAPA, 1985) study also recommended that replacements be made available to the home organizations. This component of the database, essentially a pool of available talent, could be used to search for appropriate replacement skills.

### ***Centralized Planning***

Several managers in the focus groups offered the idea of more centralized planning at the

Agency level as a general solution to many of the problems surrounding DWAs. This planning function could be given to an existing office such as NSSC or a new office created for the purpose of planning and promoting mobility.

Centralized planning could be used to help coordinate and promote:

- Replacements in home organizations for those leaving on DWA
- Skill development via DWAs
- Temporary housing
- Changing workforce expectations about mobility.

Personnel replacements in the home organizations of those on a DWA would ameliorate many problems related to DWAs. One of the most significant, according to the focus groups, is the lack of support by first line supervisors. That is, the supervisors do not encourage or support people to take a DWA. This lack of support is caused by the problems of increased workload, loss of skills, and threat to the supervisors' task accomplishment goals for their organizations.

There are many ways to address the replacement problem. One is a centralized coordination of replacements, perhaps from a database. Alternatively, the replacement problem could be the responsibility of the individuals desiring DWAs and they could find replacements from such a database.

Many in the focus groups described skill development from DWAs as "loosey goosey." In other words, some develop new skills, some do not, and some of the new skills are relevant to the home organization and some are not. In fact, the whole DWA process, especially outside of the formal programs such as SESCO and PDP, has been described as "loosey goosey." For far too many DWAs, there is too little management input to determining who will do a DWA,

when it will commence, how long it will be and what tasks will be performed. As pointed out by NAPA as far back as 1985, and currently by the focus groups, there is too little consideration of how a DWA will directly benefit the home organization or impact its schedule.

Centralized planning, even at the enterprise level, could help the Agency benefit much more from DWAs. It could help with what the GAO described as NASA's workforce predicament - a lack of critical skills in some areas. Centralized planning could emphasize the development of these skills and generally incentivize the development of the skills that are most beneficial to the Agency. The agency-wide integrated workforce planning and analysis system could be used to help identify the critical skills to be emphasized.

Many respondents to both the questionnaire and focus groups described the stress and time-consuming aspects of finding temporary housing. Centralized planning for this could include the provision for some agency-contracted temporary housing, especially at installations where there are many DWAs, such as HQ. Such housing might be less expensive to the Agency when purchased en masse. Also, it would make the attraction of a DWA considerably greater for many.

Increased centralized planning of almost any kind will begin to change the expectations of the workforce about mobility. In addition, centralizing the process to some degree could also include specific efforts to change expectations about mobility. This might begin with all new hires.

### ***Within Enterprises***

As mentioned above, the enterprise level is one at which centralization could occur. It might be easier to coordinate many aspects of DWAs at the enterprise level because the skills and knowledge of the workforce within

an enterprise are more similar than between enterprises. Thus replacements (backfilling) would be easier.

The next section describes an agency-wide coordinating office. However, such an office could be located at the enterprise level.

### ***Steering Committee***

An agency-wide steering committee could be an effective means of coordinating and promoting all of the approaches and ideas described thus far for increasing mobility. Many of the suggestions for increasing mobility will require significant effort to execute, such as a newsletter, database, coordinating replacements, etc. Organizing such effort and assigning responsibilities as well as monitoring progress, may best be accomplished from within a single committee. Effective coordination of DWAs, their scheduling and especially the replacement of their skills in home organizations, demand coordination at the Agency level.

### ***Increase Management Support***

In answer to the Survey question of whether their managers supported or encouraged them to take a DWA, only six percent of the respondents said yes. Many of those in the focus groups also believed this to be the case with senior management at HQ. Some in the focus groups indicated that their local management even discourages a DWA. These are some of the reasons that more visible support by management is recommended as a way to promote mobility.

More visible management support could be accomplished by adopting many of the suggestions already mentioned, such as a steering committee and central database. Management backing that is overt would go a long way toward encouraging mobility. It could signal support for consideration of DWAs if discussed during one's performance appraisal and when being considered for a

promotion. Career advancement was the second most mentioned reason for accepting a DWA.

Goals and measurement for mobility also would promote its increase. Goals for the amount of mobility could be set for organizations and installations. Also, a mobility goal could become part of one of NASA's strategic objectives.

### ***Increase Knowledge about DWAs***

As mentioned earlier, the most common explanation for taking a DWA was lack of awareness of the availability of DWAs. Also, as one of the respondents quoted in an earlier section indicated, some do not understand the purpose of a DWA and the Agency's goal of developing a mobile and agile workforce.

Managers in the focus groups also indicated that they were unaware of many aspects about DWAs, especially specific opportunities. Some indicated they were not prepared to recommend DWAs in the context of career planning to those they manage. For these reasons and many similar others, it is recommended that knowledge about DWAs be made much more ubiquitous. As avenues to achieving this, the following suggests both methods and types of personnel to focus upon.

### ***Methods***

The following describes four methods that could be used to help increase knowledge about DWAs.

#### ***Rollout***

More than just the education initiatives, the entire new mobility effort needs to be trumpeted. It needs to be announced with fanfare, described and promoted by many through many media at many events. It needs to have obvious management backing at the rollout. Without a rollout, in which management praises the value of the various

elements, the whole effort stands little chance of ever achieving much change.

### ***WebPages***

A set of online pages should be established that are devoted exclusively to mobility and DWAs. It should include links to the database of available opportunities as well as the existing programs that promote DWAs.

Many other types of information could be included, such as regulations about DWAs, the Individual Development Process (IDP), support groups, guides, a newsletter and training.

### ***Newsletter***

Whether or not a set of webpages is developed to promote DWAs, a newsletter would help promote acceptance and understanding of DWAs. It could describe new opportunities that had been added to the database of available DWAs, management support, policy changes, and generally any news pertaining to mobility and DWAs.

### ***Training/ Education***

As mentioned, many are unaware of DWA opportunities, policy and a host of other issues about DWAs. One means of addressing that would be to develop some training or educational pieces on the most glaring problems. These pieces could be instructional/informational media of several sorts, such as web based, workshops, handbooks or lunchtime presentations.

### ***Individual Development Plan (IDP)***

Responsibility for promoting mobility to individuals on a one-to-one basis could reside primarily with the three types of individuals that are the focuses of the next subsections:

- Managers
- Mentors
- Individuals.

### ***Managers***

Managers are supposed to be the primary guides for employees in the development of their IDPs. The process is supposed to occur at least yearly. As such, managers could be a means to encourage the acceptance of a DWA.

Results of the Questionnaire indicate that 25 percent of the respondents have a written IDP that they update approximately every year. Also, 72 percent engage in career development planning with their managers at least every 18 months, and 66 percent do it at least every 12 months.

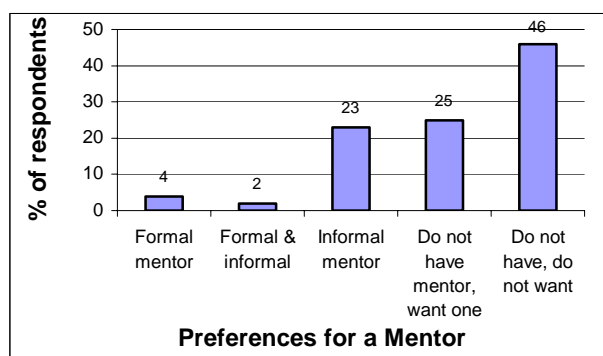
However, data from the Questionnaire showed that only six percent of managers encouraged respondents to take a DWA. The development of an IDP is an auspicious occasion for such encouragement.

### ***Mentors***

Mentors are another type of guide that could encourage employees to take a DWA. Figure 17 shows the percentage of respondents indicating whether they have a mentor (first 3 columns on the left) and if they do not have a mentor, whether they want one. As is shown in the figure, 54 percent of the respondents have or want a mentor. The first three columns on the left show the percentages of respondents that have a formal mentor, both a formal and informal mentor, or in the third column, an informal mentor. Those three together indicate that a considerable percentage (29) of the workforce has a mentor. Also, an approximately equal percentage (25) wants one but currently does not have one. Thus, there appears to be a need for more mentors.



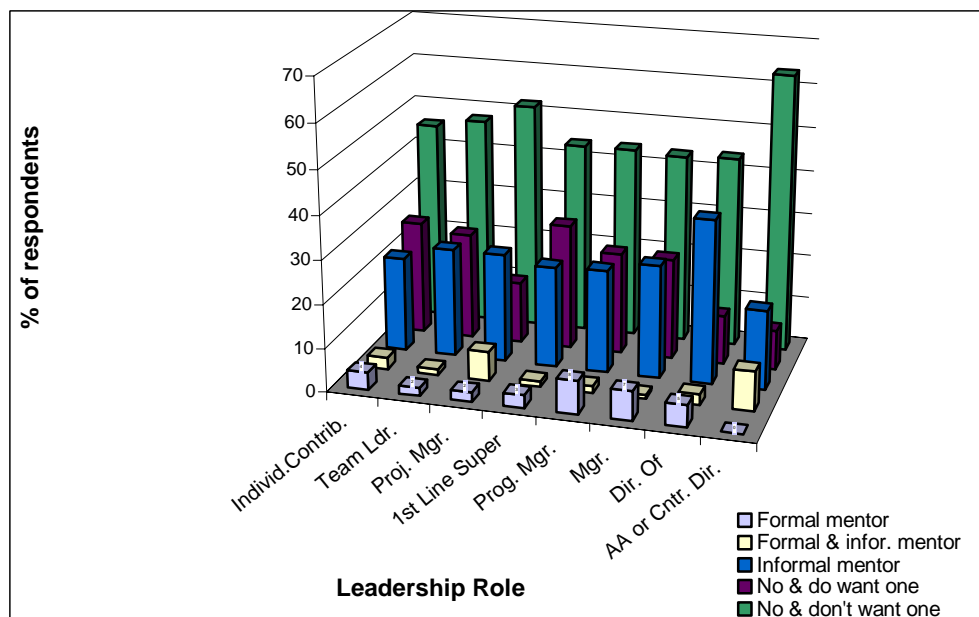
**Figure 17 - Preferences for a mentor**



Also, the desire for a mentor is not significantly related to one's leadership role, as is shown in Figure 18.

**Figure 18 - Preferences for a mentor by leadership role**

The data for that figure were taken from the responses to two items in the Questionnaire:



one that asked respondents if they had a mentor etc. as in Figure 17; and one about their current leadership role. In Figure 18, the next to the last row of the chart shows those who "Do not have a mentor, but want one." The last row shows those who do not have one and do not want one. The last row shows about the same percentage for all roles except the AA role. Similarly, the percentages in the next to last row are very similar except for the

AA and Directors roles. Thus the desire for a mentor does not appear to be related to one's leadership role.

The percentages shown in Figure 18 are not based on a trivial number of people as is shown in Table 7. This table shows the leadership roles and the number of respondents that answered both the Questionnaire items about roles and preferences about a mentor.

**Table 7 - Numbers of respondents per role that indicated a preference about a mentor**

AA, Center Dir.	Dir. of	Prog. Mgr.	Mgr.	Proj. Mgr.	1st Line Super.	Team Ldr.	Individ. Contrib.	Total
11	80	104	326	233	177	752	2156	3839

### ***Mentor Availability***

As mentioned earlier, there appears to be a dearth of mentors in that 25 percent of the workforce both wants a mentor but does not have one. One could argue that perhaps as many as 1000 mentors are needed if the ratio of mentors to those wanting one is established at 4.5 to

one (i.e., 25 percent of the workforce is approximately 4500).

Mentor availability is related to finding information on mentors in NASA. This is not easy, as searches of NASA's HR webpages show few mentor programs at centers.

### ***Employee Planning for a DWA***

Of course employees should plan for their own mobility. They should identify and schedule a DWA when appropriate.

However, it appears that beyond identification and scheduling, employees often do little else to ensure the success of a DWA. Many comments from the focus groups and Questionnaire indicate that many DWAs are less successful than they could have been because of little planning. Some of the Questionnaire respondents and focus groups indicated that their DWAs involved makework, trivial work, work that does not begin for weeks or months after arriving for assignment, and other problems. Also, the home organization and its needs are rarely given the full consideration they deserve. Based on these problems, it is recommended that the planning for a DWA include two contracts described in the next two sections.

### ***Contract with Receiving Organization***

Before a DWA is agreed to, a contract with the organization offering the position should be formulated and signed by the employee as well as the appropriate authorities in the receiving organization. It should detail the position's:

- |                                |                               |
|--------------------------------|-------------------------------|
| • Objectives                   | • Deliverables                |
| • Responsibilities             | • Timetable                   |
| • Tasks                        | • Duration                    |
| • Location                     | • Room & facilities           |
| • Funding                      | • Preparation for assignments |
| • Performance responsibilities | • Supervisor appraiser        |

### ***Contract with Home organization***

Similarly, the employee should formulate and negotiate an explicit contract with the home organization that also has the appropriate signatories. It should specify:

- Funding responsibilities for travel and per diem
- Any temporary promotion
- Benefits to the organization
- Skills to acquire
- Schedule for DWA
- Assignment of prior responsibilities
- Re-assimilation plan with schedule
- Responsibility for performance appraisal
- Communication plan with schedule for reporting progress on objectives and acquisition of skill.

### ***More Support to those on DWAs***

Another means to promote the more widespread acceptance of a DWA is to provide additional support to those performing a DWA. This support would make the DWA experience more positive, resulting in a far more favorable review of the experience by participants. Also, a newsletter about DWAs could advertise this type of support.

### ***Newsletters***

Many in the focus groups suggested that there should be a newsletter devoted to DWAs. This could be either an agency-wide letter, perhaps published by a steering committee, or an installation level letter. Besides advertising new positions, it could describe all of the ideas in the rest of this section.

### ***Support groups***

Several of the focus groups suggested that each installation organize a support group for those on DWAs. Similar groups in the military were cited as good models. The general idea is that those on a DWA at an installation would constitute part of a group that would provide its members help. Also, part of the group might be permanent members of an installation who would provide information about the city, installation, housing, etc.

Help from such groups could be informational as well as emotional. Participants indicated that such support would be welcome to those in the midst of increased stress while away from home for a very extended period.

## Local Guides

At each installation there could be a person or group that serves as a guide to those on a DWA at their installation. Their focus would be helping those on DWA with issues such as housing recommendations and points of contact for support. They could also provide general information about DWAs such as:

- Temporary housing
- Per diem allowances
- Travel
- Temporary promotions.

## Monetary

Many in the focus groups and on the Questionnaire indicated that a DWA costs the participants too much money. Many reasons for this were given, especially by those in the high-cost areas of Ames and HQ. Respondents indicated that the government reimbursement does not cover the cost of living in those areas, especially for families.

Also, respondents indicated that they incurred many new expenses that are not reimbursed by the government. Often these expenses are for the performance of tasks they used to perform at their homes or for duplicate memberships, subscriptions, etc. that they pay for on a yearly basis at home.

Many indicated that the following should be used to lessen the financial burden of a DWA:

- Bonuses
- Travel for spouse
- Temporary promotion.

The concept behind the payment of the costs for travel by a spouse is that instead of paying for the costs of the DWA participant to visit

home, the same costs could be used to pay for the spouse to visit the participant.

A bonus is consistent with NASA's current legislative proposals to Congress. In general, many participants espoused ideas similar to those embodied in the Administrator's July 2002 testimony to Congress:

**“Current bonus authority offers up to 25% of basic pay, and has proved useful to a point. Our proposal would base bonuses on the higher locality pay salaries, allow greater amounts when coupled with longer service agreements, and make more flexible payment options available...”**

## *Within Group Approaches*

The idea behind focusing on specific groups in order to promote increased mobility is twofold: some groups need it more than others; and some are more predisposed to accept it.

## Target the More Junior

As most of those who performed a DWA did so after their twelfth year at NASA, it could be advantageous to begin promoting DWAs to those between their third and seventh years. At Gillette, high potential managers are expected to have a DWA within their first four years (Corporate Leadership Council, 2000).

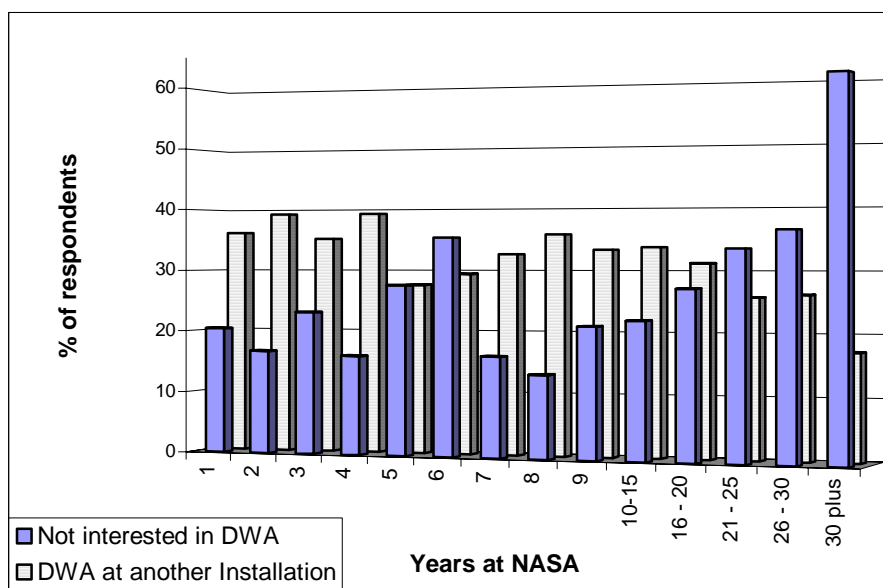
Having a DWA in the first six years of one's career would cause the added skills to be available earlier and for a longer period of time. In addition, it may be easier for the participants to perform a DWA during their early years. Often they have fewer family responsibilities and fewer ties to their community. This may be a reason for the

differences among the leader groups' open-ended responses to the question about the difficulties they experienced from taking a DWA. Only eight percent of the individual contributors said family concerns were a problem, whereas 19 percent of the executive and senior leaders said that was a difficulty.

Also, the more junior employees show a greater affinity for accepting a DWA, as is shown in Figure 19. It depicts the respondents' years at NASA and the alternative they chose when asked what type of DWA would most interest them (responses to only two of those five alternatives are shown in the table). The darker columns show those who said they were not interested in a DWA. The other column shows those who said they would prefer a DWA at another installation. Other options not shown were to choose a DWA in a related organization, at one's home installation, or the home organization performing different tasks.

Especially for the groups with more than 20 years at NASA, there is significantly less desire to have a DWA at another installation. The reverse is true among those with less than four years at NASA. Moreover, the differences between the two types of columns for those with 1 – 4 years versus those with more than 20 years are great. Many more of the junior personnel choose "DWA at another installation" than they choose "I am not interested in working a DWA." On the other hand, the reverse is true for those who have had a lengthier stay at NASA.

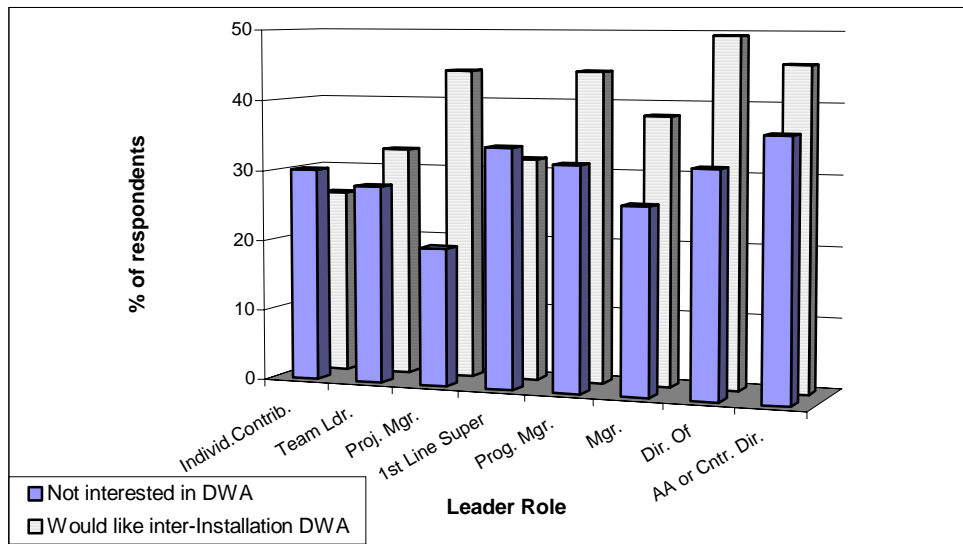
**Figure 19 - Preferences for a DWA by years at NASA**



Preferences for a DWA also show an interesting trend when displayed per leadership role as is shown in Figure 20. It depicts the percentages, for each type of leader, that chose the same two alternatives described in the previous figure (Not interested in a DWA, or DWA at another installation). It indicates that seniority of role is generally associated with higher percentages of respondents indicating that they are interested in a DWA at another center.

This might seem contradictory to the idea expressed earlier that greater years at NASA are associated with a smaller percentage of respondents indicating they prefer a DWA at another installation. In other words, one would guess that more senior roles are generally associated with more years at NASA and thus smaller, rather than larger, percentages of respondents indicating they prefer a DWA at another installation.

**Figure 20 - Preferences for a DWA by leader role**



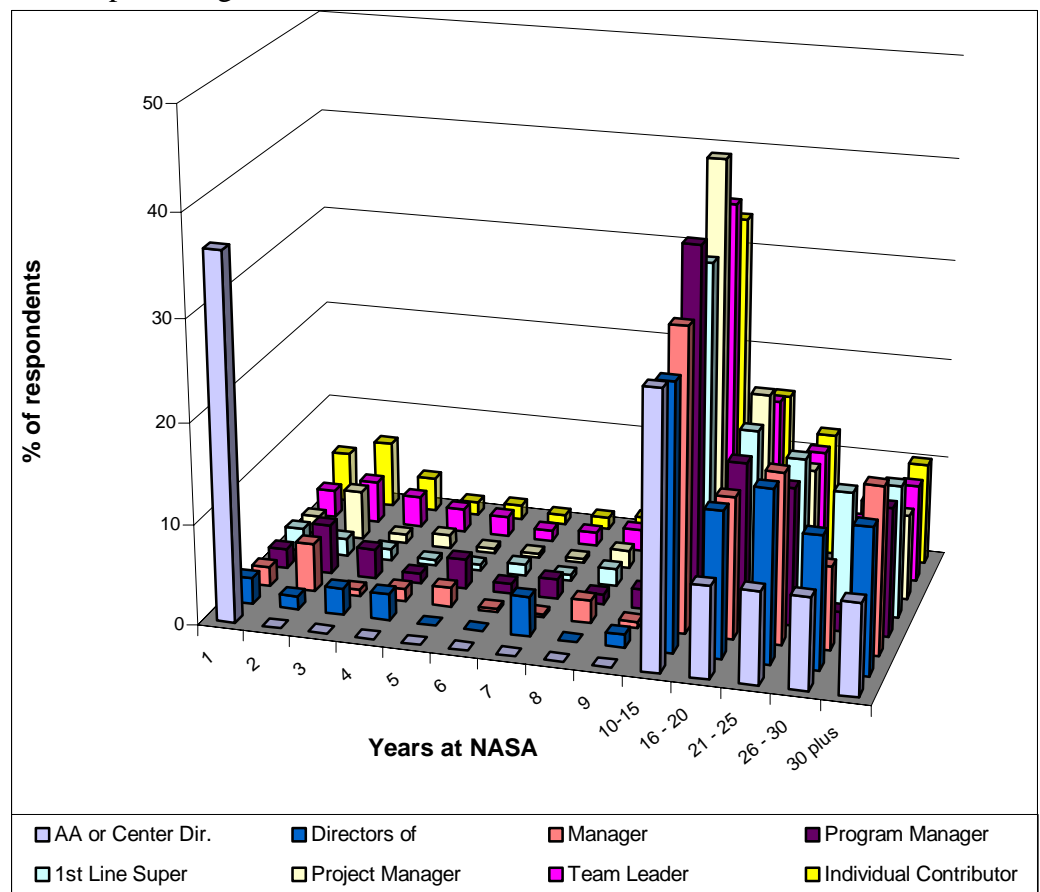
left corner to the front right corner. Instead, it generally shows that for each year or set of

years, the columns for all types of roles are about the same height. Also, that low correlation is not due to the influence of the years at NASA of the AA or Center Director group. With those members removed and their years of service removed from the data, the correlation between years at

NASA and role is only .11.

However, the correlation between years at NASA and role is only .10, as can be inferred from Figure 21. It shows the percentage of respondents per role and years at NASA. For example, the blue column in the front left shows that 36 percent of the AAs have been at NASA for only a year. The roles are arranged to show the most junior at the back with each successive more forward row depicting a more senior role.

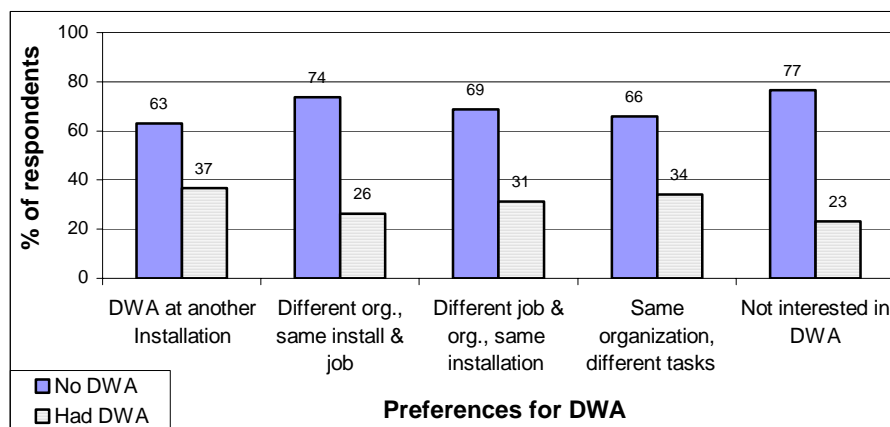
**Figure 21 - Years at NASA by leadership role**



If years at NASA and roles were highly correlated, the figure would generally show a trend of increasing column size from the back

Similarly, there is a much greater affinity for having a DWA at another installation if one has already experienced a DWA. This is shown in Figure 22 that depicts preferences for types of future DWAs by previous experience with any type of DWA. The darker columns represent those who have not had a DWA. The pair of columns on the left shows that 37 percent of the respondents who chose a DWA at another installation as their preferred DWA, had already taken a DWA.

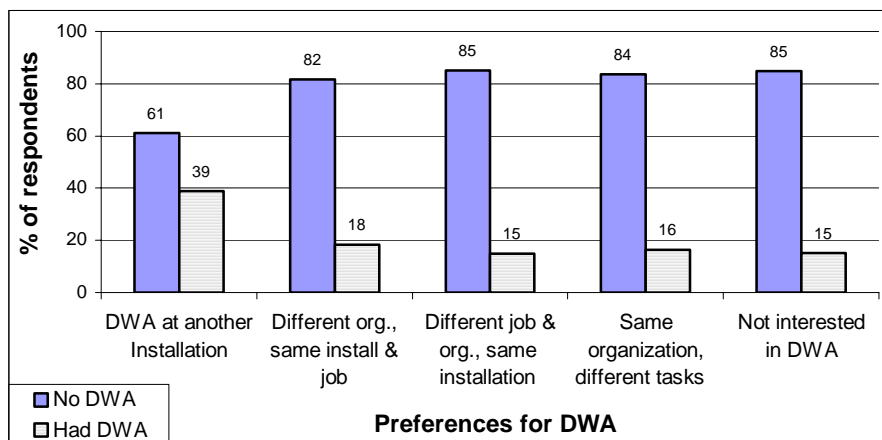
**Figure 22 - Preferences for a DWA by previous mobility**



On the other hand, the pair of columns on the right of Figure 22 shows that only 23 percent of those choosing “Not interested in DWA” had already experienced a DWA.

The same type of chart based on only inter-installation DWAs is shown in Figure 23. Those represented by the solid columns had an inter-installation DWA. Again the same types of relationship can be seen for those who experienced a DWA— a greater affinity for a DWA at another installation, especially in comparison to the choice of “Not interested in a DWA.”

**Figure 23 - DWA preferences for those who had an inter-installation DWA**



Also, the relationship between preferences for a mentor and preferences for a DWA were investigated. No significant relationships exist between these two types of preference.

## Create Expectation of Mobility in New Hires

Another means to increase mobility would be to make mobility part of the expectations of all new hires. Many in the focus groups indicated that no matter what the grade of

the employee, the workforce in NASA expected to stay at the installation at which they were hired. This expectation has certainly come true: 90 percent of the workforce is currently at the installation at which they started.

If new hires joined NASA with the expectation of changing job locations every few years, their willingness to accept such moves would be much higher than the current work force. Just as in the military and many public companies such as IBM, people are hired with the understanding that they will move every few years.



## ***Other Means of Increasing Agility***

During the focus groups, participants were questioned about alternatives to DWAs with their high costs and associated difficulties. Two primary alternatives were mentioned: Virtual DWAs and benchmarking at other installations. These are both described in greater detail in the following sections. In addition, the focus groups mentioned the following as other means of increasing agility:

- More committee work staffed by multi-centers
- More projects staffed by multi-centers
- Training classes conducted at centers rather than off-site hotels.

## **Virtual DWAs**

Many in the focus groups indicated that virtual DWAs would not only lessen the stress and money that a DWA costs the participant; they also would substantially decrease the financial burden to the Agency. The essential idea behind the virtual DWA is that obtaining the benefits of a typical DWA does not have to involve six or more full months of on-site presence. On the contrary, the focus groups indicated that such benefits could be derived from much less time on-site, especially if it was high-quality time. The rest of the time would be spent accomplishing work from their home installations.

This same idea of shorter duration assignments is espoused by many companies, especially those with global workforces (Solomon, 1997). Solomon found a three-fold increase in the percentage of short-term assignments between the years 1992 and 1998.

Some on-site, face-to-face work and interactions were deemed necessary by those in the focus groups; perhaps a week during every four to six-week period. Most of the participants indicated that such time would

allow them to develop contacts, skills and a broader perspective – the three primary benefits of a DWA according to the responses of the Questionnaire.

They indicated that those benefits would accrue especially if telepresence was often used as a means of augmenting a virtual DWA. Telepresence for DWAs is consistent with the Agency position that is part of the Freedom 2 Manage initiative. As stated in a recent report on the progress of the initiative (see <http://f2m.nasa.gov/progress.htm>): “Agency management reiterated support for telecommuting for all “eligible positions” with first-level supervisor and head of office approval.”

## **Benchmarking at Other Installations**

Some participants in the focus groups indicated that they rely on the expertise and practices of personnel at other installations when trying to identify solutions and best practices. This can be more effective than looking to private industry for expertise and best practices, as other installations’ solutions and best practices were generated in environments generally much more similar to one’s home center than are those of most corporations. Also, such benchmarking would promote inter-installation cooperation, agility and a broader perspective among the workforce, as well as “ONE NASA.”

## ***Current Practices and Programs Promoting Mobility***

There are a few programs in NASA that promote mobility in the form of a temporary developmental work assignment.

## **SESCDP**

The Senior Executive Service Candidate Development Program offers individuals a structured approach to preparing for recurring openings in the SES. Candidates must be nominated by their installation and are

generally GS-15's who have shown the potential to become outstanding leaders at the SES level. The program lasts 12-18 months and requires participants to engage in a DWA as one of their core development activities. The DWA must last at least 120 days. Also, they must sign an agreement that indicates they may be asked to take a temporary assignment at another installation.

## **PDP**

DWAs are a primary feature of the agency-wide Professional Development Program. The PDP is designed for grades 13 through 15 and supports approximately 20 participants per year. In addition to a primary DWA assignment, participants are required to engage in co-lateral assignments of at least 90 days.

Assignments are designed with the home supervisor to meet the participants' unique developmental needs and NASA's goals. Co-lateral assignments focus on broadening activities and participants are encouraged to engage in assignments that do not utilize their technical expertise but rather expose them to understanding how NASA's mission fits into the larger National/global needs and issues.

International co-lateral assignments are supported. The program maintains an online list of DWA opportunities that are identified primarily by managers at the Centers. Outside organizations also post potential DWAs for NASA employees.

## **Fellowships**

NASA's Fellowship Program supports DWAs in the form of academic development. Persons selected for fellowships are provided academic learning at the country's finest universities, colleges and federal training institutes for education. Each year, 25 to 45 employees are selected for approximately 30 fellowship programs through an agency-wide competitive selection process. The length of DWA varies with the program from one week to up to one year



## NEXT STEPS

This section consolidates the approaches described in the previous section into a brief set of sequenced steps. The details on each are in the previous section.

### ***Develop a Plan***

**“Make no little plans; they have no magic to stir men's blood...”**

**Daniel H. Burnham**

Surely even the most meager of efforts devoted to changing the mobility of an 18,000-thousand person organization deserves a plan. The initial plan for this type of effort should be high-level only and the details left to those who would implement each of the individual initiatives.

### ***Establish a Steering Committee***

If even half of the initiatives specified in this report are established, an enormous amount of coordination will be required and should be performed by a single group. Moreover, requirements for coordination will persist even after the initiatives are fully implemented. In addition, the steering committee should examine the centralization suggestions made earlier in this report to determine the appropriate ones that should be adopted by NASA.

Also, the steering committee should be responsible for orchestrating the development of an overall plan. The plan should contain details for pilot testing each of the individual components.

### ***Commission Many Initiatives***

Early on in the quest for greater mobility, as many as possible of the individual

suggestions for promoting mobility should be commissioned and begin. Moving from seven percent inter-installation mobility to perhaps 30 percent cannot be done in a timely manner if all of the initiatives adopted to promote mobility are completed sequentially. Also, many of them could remain self-contained through much of their development.

### ***Show Management Support***

As a first step in demonstrating management support, the initiatives that get adopted as well as the high-level plan should be widely publicized. This could be part one of the rollout mentioned earlier.

Such publicity should be delivered through many media and contain explanations of why the Agency wants a more mobile workforce. As noted earlier, many do not understand. Also, any goals that are adopted should be made public.

### ***Conduct a Pilot Test***

A relatively small-scale test of the new mobility initiatives should be conducted in order to refine any new mobility-promoting processes, without making many costly mistakes. Many such initiatives could be tested within an Enterprise. Prior to collecting data in the test, quantitative metrics should be established to help judge the effectiveness of the initiatives.

### ***Develop a Database***

A single database for DWAs should be established that contains the data from all current similar databases. It should contain a supply-side component that gives the details of all those desiring a DWA.

### ***Develop & Implement Education***

An agency-wide plan should be developed by Code FT that specifies how the workforce will be educated about DWAs. It should address at least the three types of personnel mentioned as highly instrumental in directly promoting DWAs: managers; mentors; and those who will take a DWA.

### ***Identify Guides***

Volunteers should be identified at each of the centers to serve as guides to those performing or considering a DWA. As a group they should develop ideas for support groups, newsletters and handbooks. They should implement these ideas in concert with the coordinating office.

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## APPENDIX 1 - SURVEY METHODOLOGY

Every other NASA employee on a list of all NASA employees was sent an email from the Associate Administrator for Human Resources and Education, Vicki Novak, asking them to take an online survey. Of the 9200 individuals asked to participate 4,185 (46%) responded and completed most of the Survey questions they were asked.

The questionnaire consisted of 61 items although its branching logic took most individuals to only 24 items. This short length surely was instrumental in having 95% persevere to the end of the questionnaire.

Respondents were given approximately two weeks to respond to the Survey by clicking the link in the email that invited them. After linking to the questionnaire, respondents had to enter a unique password in order to proceed. Thus the security of questionnaire was ensured.

Respondents did not reveal their identities although most responded to nine questions about their demographics. Generally, 3850 respondents completed those types of items.

### **Developmental Work Assignment**

The definition given to respondents in the questionnaire was:

A Developmental Work Assignment is any temporary tasking in which you are typically given some or all of the work of another position that is outside of your workgroup. However, a DWA does not have to include assignment to another position. It could involve keeping your current position and taking on a full-time task of a month or longer that is outside the scope of your position. Any assignment to another directorate, installation or organization would be a DWA. Common examples include assignments called DWAs, Details (of at least a month), SESCDPs and internships.

## APPENDIX 2 - REPRESENTATIVENESS OF THE SURVEY DATA

The Survey data appear to be representative of the entire population of NASA employees. The primary reason is that there were 4185 respondents that represent 23 percent of the entire NASA population. This is an extremely large percentage for a sample of a population of 18,193. For example, only 116 respondents would be required to have a representative sample if the following conditions were used to calculate the required number of respondents:

- The variability of in respondents' answers to the questions is based on the variability of the answers to the question about whether one experienced a DWA or not
- The margin of error is set to 5 percent of the mean value for the same question about DWAs (the mean is calculated by assigning a value of 1 or 2 to the answers of "no" and "yes")
- The probability of achieving a 5 percent margin of error is set to 95 percent
- Each member of the NASA population had an equal chance of being selected (e.g., a true random selection of respondents was done).

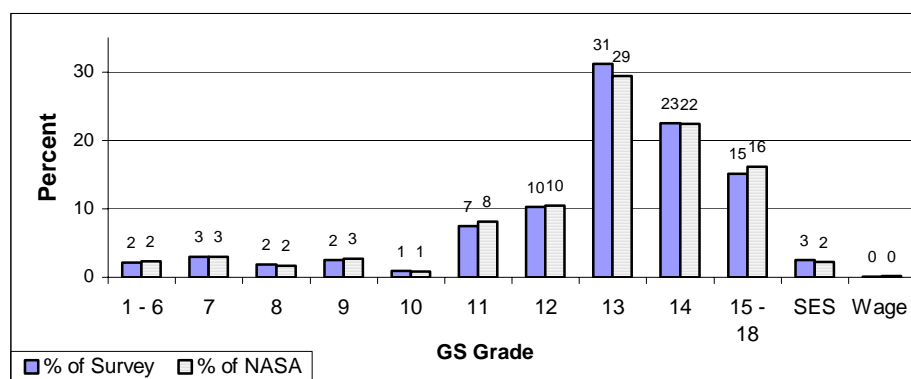
Of course the selection of the respondents was not done as indicated above. Each invitee determined whether they would participate or not, so there could have been biases introduced into the selection process. Thus, strictly speaking, we cannot determine how many respondents would be needed for a representative sample, given the selection procedures used. Nevertheless, when almost half of those invited respond, and those invited

constitute half of a sizable population, one could argue the sample is representative.

There are five other indicators that point toward the sample being representative of the entire NASA population. Each of those five compares the Survey respondents to the entire NASA population in terms of a demographic (e.g., gender). All five show the Survey respondents to be very similar to the entire NASA population (e.g., both contain the similar percentages of males and females). Besides gender, these similar percentages are for installation, GS grade, ethnic origin, and occupation. The details for installation were discussed in a previous section called Background.

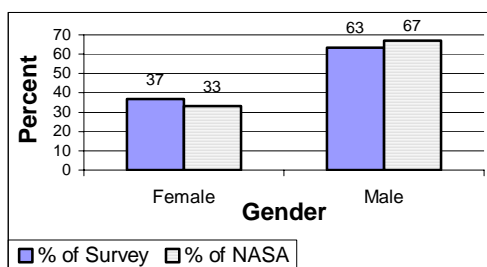
The details for the indicator involving GS grades are shown in Figure 24, which indicates the percentage of the respondents by grade and the percentage by grade for the entire NASA population. Again, the two sets of percentages are remarkably similar. (The chart shows a percentage rounded to zero for Wage Grade, but 25 such personnel did respond to most of the questions.)

**Figure 24 - Percent of the members of each grade that responded to the Questionnaire**



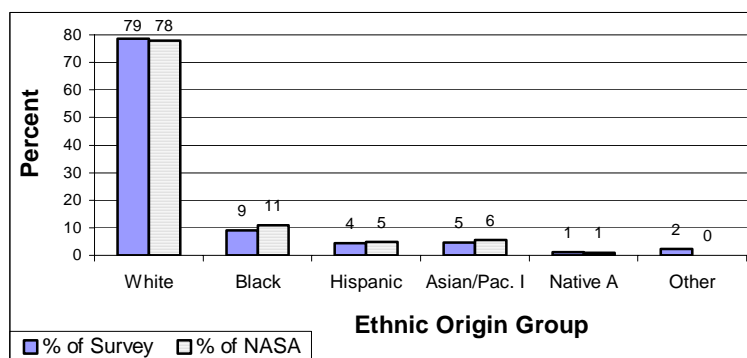
Twenty-four percent of the female population of NASA responded to the Survey and 20 percent of the male. Their representation in the Survey is similar to their representation in the entire NASA population. This is shown in Figure 25 that indicates the same two types of percentages used in Figure 24.

**Figure 25 - Percent of the members of each gender that responded to the Questionnaire**



In terms of five types of ethnic origin categories, the data again show that Survey respondents were representative of the entire NASA population. This is shown in Figure 26.

**Figure 26 – Percent of the members of each ethnic origin group that responded to the Questionnaire**



As shown in Figure 27, all of the five categories of occupation that were used to classify respondents show high levels of participation in the Survey. It depicts the same two types of percentages shown in the prior figures. Similarly, it shows that each occupation is properly represented in the Survey.

**Figure 27- Percent of the members of each occupational group that responded to the Questionnaire**

